UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
CHENEY, BOBAE K.

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *28 September 2006*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-22* is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-22* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *28 September 2006* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a) ☒ All   b) ☐ Some *   c) ☐ None of:
　　　　1. ☒ Certified copies of the priority documents have been received.
　　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.
　　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   **Claims 1, 5 – 8, 13 – 18, 21, and 22** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Van Renesse (US Patent 6,411,967) in view of Blair (US

Publication 2003/0061316).

3.   Regarding to **claim 1**, "a method of transmitting data over a decentralized

network, the method comprising the steps of receiving a plurality of data files at a relay

device," Van Renesse teaches decentralized network [Figure 1] and gossip the updates

to one another [Column 4 Line 12 - 29]. When the nodes are gossiping the updates to

one another, nodes will receive plurality of updates (data files). "Processing the data

therein to create an aggregated compressed data file," Van Renesse teaches combining

two update messages into a composite update message [Column 6 Line 21 – 27].

"Transmitting the aggregated compressed data file to a plurality of similar relay device,"

Van Renesse teaches nodes gossip among themselves to update the nodes [Abstract].

In order to update among themselves, nodes will send the updated data to other nodes.

Van Renesse does not expressly teach "at least one of the data files being a

compressed data file" or creating compressed file. However, Blair teaches creating

compressed file and transmitting the compressed file [Paragraph 33]. It would have

been obvious to one of ordinary skill in the art at the time of the invention to create

compressed file taught by Blair when creating an aggregated file to transmit to other

nodes for the purpose of transmitting the file faster. Smaller size of file will travel faster

in a network.

4.   Regarding to **claim 5**, "wherein the aggregated compressed data files are

transmitted using an epidemic dissemination process," Van Renesse teaches nodes

gossiping among themselves (epidemic dissemination process) [Abstract].

5.   Regarding to **claim 6**, "wherein each relay device stores each message received,

compares subsequently received messages with those already stored, and suspends

the aggregating and forwarding process for any duplicate messages identified," Van

Renesse teaches messages with version number and if the version number of new

message is bigger than the version number on base, then store the new message and if

the version number is smaller than the version number on base, then ignores the

message (suspend process) [Column 3 Line 55 - Column 4 Line 10].

6.   Regarding to **claim 7**, "wherein at least some of the relay devices receive

compressed data from associated data generation and compression means," Van

Renesse teaches receiving update information from other node it was updated (data

generation) [Column 3 Line 55 – Column 4 Line 10] and Blair teaches compressed file

[Paragraph 33].

7.   **Claim 8** is similar to claim 1. Therefore, claim 8 is rejected under the similar

ground.

8.   **Claim 13** is similar to claim 5. Therefore, claim 13 is rejected under the similar

ground.

9.   **Claim 14** is similar to claim 6. Therefore, claim 14 is rejected under the similar

ground.

10.   **Claim 15** is similar to claim 7. Therefore, claim 15 is rejected under the similar

ground.

11.   Regarding to **claim 16**, "analysis means for analyzing incoming aggregate

messages to capture data contained therein," Van Renesse teaches updating replicate

management information base with update message with information [Column 3 Line 55

– Column 4 Line 10]. In order to update base with update message, it needs to capture

the date contained in the message.

12.   Regarding to **claim 17**, "a decentralized communications network in which a

plurality of servers collectively maintain a database that records event reports," Van

Renesse teaches decentralized network with each node maintaining Replicated

management information base (database) [Figure 1, Column 1 Line 24 – 43]. "The

plurality of servers forming an overlay network and intercommunicating using a common

messaging strategy based on a publisher forwarding scheme running over the overlay

network," Van Renesse teaches network using messaging scheme and node sends out

update message to other nodes (publisher forwarding scheme) [Column 1 Line 6 – 43].

"The servers having means to aggregate compressed data messages received from

one or more other servers to create a compressed aggregate message," Van Renesse

teaches gossip the updates to one another [Column 4 Line 12 - 29]. When the nodes

are gossiping the updates to one another, nodes will receive plurality of updates (data files). Van Renesse teaches combining two update messages into a composite update message [Column 6 Line 21 – 27]. "To broadcast the compressed aggregate message to one or more of the other servers," Van Renesse teaches nodes gossip among themselves to update the nodes [Abstract]. "at least one of the servers having means to generate data messages in response to specific events, and means to aggregate the data messages so generated with the messages received from the other servers," Van Renesse teaches each node update its node by its own or by update message from Other nodes [Column 3 Line 55 - Column 4 Line 10] and aggregating update messages [Column 6 Line 21 – 27]. Van Renesse does not expressly teach compressed files. However, Blair teaches creating compressed file and transmitting the compressed file [Paragraph 33]. It would have been obvious to one of ordinary skill in the art at the time of the invention to create compressed file taught by Blair when creating an aggregated file to transmit to other nodes for the purpose of transmitting the file faster. Smaller size of file will travel faster in a network.

13.   Regarding to **claim 18**, "in which the servers have means to modify the aggregate messages they receive before broadcasting them," Van Renesse teaches updating version number before sending to other nodes [Column 3 Line 55 – Column 4 Line 10].

14.   Regarding to **claim 21**, "wherein individual servers have means for deleting from the data that is to be forwarded any data that has been previously received and

forwarded by the same device," Van Renesse teaches deleting overlapping messages

[Column 6 Line 30 – 37].

15.   Regarding to **claim 22**, "wherein individual servers have means for extracting

data required by a processing device associated with the server," Van Renesse teaches

updating replicate management information base with update message with information

[Column 3 Line 55 – Column 4 Line 10]. In order to update base with update message,

it needs to extract the date contained in the message.

16.   **Claims 2, and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Van Renesse and Blair as applied to claims 1 and 8 above, and further in view of Vleet

(US Publication 2005/0033803).

17.   Regarding to **claim 2**, Van Renesse and Blair teaches compression and

aggregation technique, but do not expressly teach "wherein the compression and

aggregation technique applied to the data is a Bloom filter process." However, Vleet

teaches using Bloom filter process, which is a condensed representation of data

[Paragraph 55]. It would have been obvious to one of ordinary skill in the art at the time

of the invention to use Bloom filter process taught by Vleet in compression and

aggregation data taught by Van Renesse and Blair for the purpose of reducing the

processing and data retrieval [Vleet Paragraph 55].

18.   **Claim 9** is similar to claim 2. Therefore, claim 9 is rejected under the similar

ground.

19.   **Claims 3 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse and Blair as applied to claims 1 and 8 above, and further in view of Akhtar (US Patent 6,418,139).

20.   Regarding to **claim 3**, Van Renesse teaches aggregated message, but does not expressly teach "wherein each individual aggregate message has a predetermined expiry time, and messages are only forwarded if they have not exceeded their predetermined expiry time." However, Akhtar teaches packet (message) with time to live (expiry time) and if it is expired, then they do not forward the packet [Column 7 Line 44 – 57]. It would have been obvious to one of ordinary skill in the art at the time of the invention to have expiry time taught by Akhtar on aggregated message taught by Van Renesse for the purpose of preventing over-propagation of information.

21.   **Claim 10** is similar to claim 3. Therefore, claim 10 is rejected under the similar ground.

22.   **Claims 4, 11, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse, Blair, and Akhtar as applied to claims 3 and 10 above, and further in view of Yosef (US Publication 2005/0259682).

23.   Regarding to **claim 4**, Akhtar teaches message with expiry time, but does not expressly teach "messages received by a relay device having the same expiry time are aggregated into a single message for further dissemination." However, Yosef teaches combining (aggregate) files with same expiring time [Paragraph 198]. It would have been obvious to one of ordinary skill in the art at the time of the invention to aggregate data with same expiring time taught by Yosef when data is received for the purpose of

reducing number of data that is transferred. Since the data has same expiry time, there's no confusion of when the data should be expired.

24.   **Claim 11** is similar to claim 4. Therefore, claim 11 is rejected under the similar ground.

25.   Regarding to **claim 12**, "having means for disseminating a plurality of such aggregate messages having different expiry times," Yosef teaches files with expiry time [Paragraph 198].

26.   **Claim19** rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse and Blair as applied to claim 18 above, and further in view of Jackson (US Publication 2004/0039789).

27.   Regarding to **claim 19**, Van Renesse teaches transmitting messages, but does not expressly teach "having means for the deletion of time-expired elements of the messages." However, Jackson teaches server deleting expired messages [Paragraph 123]. It would have been obvious to one of ordinary skill in the art at the time of the invention to delete expired message taught by Jackson when transmitting messages taught by Van Renesse for the purpose of prevent usage of unnecessary bandwidth. The messages which are alive will be delivered faster.

28.   **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse, Blair, and Jackson as applied to claim 19 above, and further in view of Vleet (US Publication 2005/0033803).

29.   Regarding to **claim 20**, "arranged for the dissemination of aggregated Bloom filter messages using an epidemic dissemination process," Van Renesse teaches nodes

gossiping among themselves (epidemic dissemination process) [Abstract]. Van Renesse does not expressly teach Bloom filter message. However, Vleet teaches using Bloom filter process, which is a condensed representation of data [Paragraph 55]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Bloom filter process taught by Vleet in epidemic process taught by Van Renesse for the purpose of reducing the processing and data retrieval [Vleet Paragraph 55].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBAE K. CHENEY whose telephone number is (571)270-7641. The examiner can normally be reached on Monday - Thursday 7:30 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Avellino can be reached on (571)272-3905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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